

## Dissertation

*Sparse Gaussian Elimination on High Performance Computers*, Computer Science Division, U.C. Berkeley, UCB//CSD-96-919, (LAPACK Working Note #127), September 1996.

## In Books

1. Contributed sections in *Templates for the Solution of Algebraic Eigenvalue Problems: A Practical Guide*, Z. Bai, J. Demmel, J. Dongarra, A. Ruhe and H. van der Vorst, editors. SIAM, Philadelphia, 2000.
2. Xiaoye Li and Stavros A. Zenios, “A Massively Parallel  $\varepsilon$ -relaxation Algorithm for Linear Transportation Problems”, in *Advances in Optimization and Parallel Computing*, P.M. Pardalos, editor. Elsevier Science Publishers, 1992, pp 164-176.

## Refereed Journals

1. Xiaoye S. Li and James W. Demmel, “SuperLU\_DIST – A Scalable Distributed-Memory Sparse Direct Solver for Unsymmetric Linear Systems”, *ACM Trans. on Math. Software*, Vol. 29, No. 2, pp. 110-140, June 2003.
2. P. R. Amestoy, I. S. Duff, J.-Y. L'Excellent and X. S. Li, “Impact of the Implementation of MPI Point-to-Point Communications on the Performance of Two General Sparse Solvers”, *Parallel Computing*, Vol. 29, Issue 7, July 2003, pp. 833-849.
3. X. S. Li, J. W. Demmel, D. H. Bailey, G. Henry, Y. Hida, J. Iskandar, W. Kahan, S. Y. Kang, A. Kapur, M. C. Martin, B. J. Thompson, T. Tung and D. J. Yoo, “Design, Implementation and Testing of Extended and Mixed Precision BLAS”, *ACM Trans. on Math. Software*, Vol. 28, No. 2, pp. 152-205, June 2002.
4. L. Oliker, X. S. Li, P. Husband and R. Biswas, “Effects of Ordering Strategies and Programming Paradigms on Sparse Matrix Computations” *SIAM Review*, Vo. 44, No. 3, pp. 373-393, September 2002.
5. John R. Gilbert, Xiaoye S. Li, Esmond G. Ng and Barry W. Peyton, “Computing Row and Column Counts for Sparse QR and LU Factorization”, *BIT*, Vol. 41, No. 4, 2001, pp. 693-710.
6. P. R. Amestoy, I. S. Duff, J.-Y. L'Excellent and X. S. Li, “Analysis and Comparison of Two General Sparse Solvers for Distributed Memory Computers”, *ACM Trans. on Math. Software*, Vol. 27, No. 4, December 2001, pp. 388-421.
7. M. Baertschy, T. N. Rescigno, W. A. Isaacs, X. S. Li and C. W. McCurdy, “Electron-impact ionization of atomic hydrogen”, *Physical Review A*, vol. 63, January 18, 2001.
8. James W. Demmel, John R. Gilbert and Xiaoye S. Li, “An Asynchronous Parallel Supernodal Algorithm for Sparse Gaussian Elimination”, *SIAM J. Matrix Analysis and Applications*, vol. 20 (4), 915-952, 1999.
9. James W. Demmel, Stanley C. Eisenstat, John R. Gilbert, Xiaoye S. Li and Joseph W.H. Liu, “A Supernodal Approach to Sparse Partial Pivoting”, *SIAM J. Matrix Analysis and Applications*, vol. 20 (3), 720-755, 1999.

10. Xiaoye S. Li and Stavros A. Zenios, "Data-level Parallel Solution of Min-cost Network Flow Problems Using  $\varepsilon$ -relaxations" *European Journal of Operational Research*, vol. 79, no. 3, 474-488, 22 December 1994.
11. James W. Demmel and Xiaoye S. Li, "Faster Numerical Algorithms via Exception Handling", *IEEE Transactions on Computers*, vol. 43, no. 8, 983-992, August 1994.
12. Steve Lumetta, Liam Murphy, Xiaoye Li, David Culler and Ismail Khalil, "Decentralized Optimal Power Pricing: The Development of a Parallel Program" *IEEE Parallel and Distributed Technology*, vol. 1, no. 4, 23-31, November 1993.
13. Xiaoye Li and Panos M. Pardalos, "Parallel Branch and Bound Algorithms for Combinatorial Optimization" *Supercomputer* 39, VII-5, 13-20, 1990.
14. S. Jutamulia, G. Storti and X. Li, "Expert Systems Based on LCTV AND/OR Logic" *Optics and Laser Technology*, vol. 21, No. 6, 392-394, 1989.

Refereed Conference Proceedings

1. David H. Bailey and Xiaoye S. Li, "A Comparison of Three High-Precision Quadrature Schemes," *Proceedings of the 5th Conference on Real Numbers and Computers (RNC'5)*, September 3-5, 2003, Lyon, France.
2. L. Grigori and X. S. Li, "A New Scheduling Algorithm for Parallel Sparse LU Factorization with Static Pivoting", *Proceedings of the IEEE/ACM SC2002 Conference*, November 16–22, 2002, Baltimore.
3. D. H. Bailey, D. Broadhurst, Y. Hida, X. S. Li and B. Thompson, "High Performance Computing Meets Experimental Mathematics", *Proceedings of the IEEE/ACM SC2002 Conference*, November 16–22, 2002, Baltimore.
4. B. Gaeke, P. Husbands, X. S. Li, L. Oliker, K. Yelick and R. Biswas, "Memory-Intensive Benchmarks: IRAM vs. Cache-based Machines", *Proceedings of the International Parallel and Distributed Processing Symposium (IPDPS 2002)*, April 15–19, 2002, Fort Lauderdale, Florida.
5. M. Baertschy and X. S. Li, "Solution of a Three-Body Problem in Quantum Mechanics Using Sparse Linear Algebra on Parallel Computers", *Proceedings of SC2001*, November 10–16, 2001, Denver, Colorado.
6. Y. Hida, X. S. Li and D. H. Bailey, "Algorithms for Quad-Double Precision Floating Point Arithmetic", *15th IEEE Symposium on Computer Arithmetic*, June 11–13, 2001, Vail, Colorado, pp. 155–162.
7. P. R. Amestoy, I. S. Duff, J.-Y. L'Excellent and X. S. Li, "Performance and Tuning of Two Distributed Memory Sparse Solvers", *Tenth SIAM Conference on Parallel Processing and Scientific Computing*, March 12–14, 2001, Portsmouth, Virginia USA.
8. L. Oliker, X. S. Li, P. Husbands and R. Biswas, "Ordering Schemes for Sparse Matrices using Modern Programming Paradigms", *The IASTED International Conference on Applied Informatics*, February 19–22, 2001, Innsbruck, Austria, 1–6.
9. L. Oliker, X. S. Li, G. Heber and R. Biswas, "Parallel Conjugate Gradient: Effects of Ordering Strategies, Programming Paradigms, and Architectural Platforms", *13th International Conference on Parallel and Distributed Computing Systems*, August 8–10, 2000, pp. 178–185.

10. L. Oliker, X. S. Li, Gerd Heber, and Rupak Biswas, “Ordering Unstructured Meshes for Sparse Matrix Computations on Leading Parallel Systems”, *Seventh International Workshop on Solving Irregularly Structured Problems in Parallel*, May 1, 2000. *Lecture Notes in Computer Science 1800*, 497–503.
11. Xiaoye S. Li and James W. Demmel, “A Scalable Sparse Direct Solver Using Static Pivoting”, *Ninth SIAM Conference on Parallel Processing and Scientific Computing*, March 22–24, 1999, San Antonio, Texas.
12. Xiaoye S. Li and James W. Demmel, “Making Sparse Gaussian Elimination Scalable by Static Pivoting”, *SC98*, Orlando, Florida, November 7–13, 1998.
13. Xiaoye S. Li, James W. Demmel and John R. Gilbert, “A Parallel Supernodal Method for Sparse Gaussian Elimination”, *15-th IMACS World Congress on Scientific Computation, Modeling and Applied Mathematics*, Berlin, Germany, August 24–29, 1997, 331–336.
14. James W. Demmel and Xiaoye S. Li, “Faster Numerical Algorithms via Exception Handling”, *11-th IEEE Symposium on Computer Arithmetic*, Windsor, Ontario, June 29–July 2, 1993, 234–241.
15. Steve Lumetta, Liam Murphy, Xiaoye Li, David Culler and Ismail Khalil, “Efficient Development of an Iterative Algorithm for Distributed Machines”, *Supercomputing ’93*, Portland, Oregon, November 15–19, 1993, 240–249.
16. Xiaoye Li and Stavros A. Zenios, “On a Massively Parallel  $\varepsilon$ -Relaxation Algorithm for Linear Transportation Problms”, *International Conference on Parallel Processing*, 1991, vol. III, 307–307.
17. Lizhu Zhou and Xiaoye Li, “A Prolog-Based Rule Compiler for Building Expert Systems”, *The Second IEEE International Conference on Computers and Applications*, Beijing, China, 1987, 564–569,

Technical Reports (not appeared elsewhere)

1. C. Yang, W. Gao, Z. Bai, X. Li, L. Lee, P. Husbands and E. Ng, “An Algebraic Substructuring Method for Large-scale Eigenvalue Calculation”, LBNL-55050, Lawrence Berkeley National Laboratory, May 2004.
2. L. Grigori and X. S. Li, “Performance Analysis of Parallel Supernodal Sparse LU Factorization”, LBNL-54497, Lawrence Berkeley National Laboratory, Feburary 2004.
3. Patrick R. Amestoy, Xiaoye S. Li and Esmond G. Ng, “Diagonal Markowitz Scheme with Local Symmetrization”, LBNL-53854, December 2003. Submitted to *SIAM J. Matrix Analysis and Applications*
4. Xiaoye S. Li “An Overview of SuperLU: Algorithms, Implementation, and User Interface”, LBNL-53848, December 2003. Submitted to *ACM Trans. on Math. Software, special issue on the DOE ACTS Collection*,
5. Xiaoye S. Li and Yu Wang, “Performance Evaluation and Enhancement of SuperLU\_DIST 2.0”, LBNL-53624, Lawrence Berkeley National Laboratory, August 2003.
6. David H. Bailey, Yozo Hida, Xiaoye S. Li and Brandon Thompson, ”ARPREC: An Arbitrary Precision Computation Package”, LBNL-53651, Lawrence Berkeley National Laboratory, Sept 2002.
7. James W. Demmel, John R. Gilbert and Xiaoye S. Li, “SuperLU Users’ Guide”, LBNL-44289, Lawrence Berkeley National Laboratory, September 1999.

Papers in Preparation

1. Stéphane Pralet, Patrick R. Amestoy and Xiaoye S. Li, “Unsymmetric Ordering Using A Constrained Markowitz Scheme”.
2. J. Demmel, Y. Hida, W. Kahan, X.S. Li, S. Mukherjee and E.J. Riedy, “Error Bounds from Extra Precise Iterative Refinement”.